**In Newport, lead lingers and lingers**

Kevin Schultz, Special to The Enquirer 1:49 p.m. EDT October 23, 2015



(Photo: Kevin Schultz)

In the three years since a [USA TODAY](http://usatoday30.usatoday.com/news/nation/smelting-lead-contamination/index#sites/330) investigation identified Newport as a community with dangerously high levels of lead in the soil, evidence of the chemical’s pervasiveness continues to grow.

A study conducted by a Northern Kentucky University scientist and her students earlier this year found levels of lead that some consider unsafe in more than 98 percent of the 204 tests they conducted on Westside neighborhood yards within a half-mile of a former smelter site at 12th and Lowell streets.

A few community members have pushed for action to make their city safer for children, who can suffer learning disabilities and many other long-term health problems from lead poisoning. But the progress has been disappointingly slow.

The EPA required the owner of the site of the former smelter plant — spotlighted as a source of elevated soil lead levels in the USA TODAY series — to erect a barbed wire fence and post signs warning of its lead contamination as a temporary means to secure that property.

New owners bought the property in September 2014 and public records show they have plans to permanently cap off the lead-contaminated grounds with a thick layer of concrete. But no actual cleanup has begun.

In addition, the EPA awarded two Northern Kentucky cities and a regional development group a $600,000 grant in spring 2014 to identify properties with lead and other contaminants. That work still remains in the early stages.

Efforts to solve this problem of lead in Newport are frustrated by debate over everything from who’s responsible for organizing and paying for expensive lead cleanup projects to what the actual safety standards are for soil-based lead contamination, to questions about just how serious of a health threat lead poses and what the best path may be moving forward.

One of the biggest challenges seems to be getting people with authority to publicly acknowledge the issue.

“We are not talking about it, and we are not talking about it because there is no plan and we really don’t have the money to do anything about it,” said Monica Remmy, president of the Westside Citizens Coalition in Newport. “Once you know there is a problem, then you are obligated to do something about it. And right now it is much easier to just not talk about it.”

**Who is responsible?**

Lead-contaminated soil is fairly common in old, industrial cities such as Newport, which was founded in 1795 and developed in the years before increased awareness about the health effects of lead contributed to bans on lead-based paint on buildings, leaded fuel in cars and lead emissions from factories.

But the city drew special attention in 2012 when a USA TODAY report identified it as one of 464 sites across the country that may have elevated levels of lead due to former smelting operations.

USA TODAY focused in on Newport as one of 21 sites for its own lead testing, which eventually found high levels of lead in eight yards along the wind path from the site on West 12th Street where a foundry operated in the 1950s.

After the 2012 report, the EPA conducted follow-up tests that confirmed contamination at the smelter site. L&H Tool and Dye, which owned the property and operated an aluminum stamping business there at the time, then agreed to the temporary containment plan that involve securing the property.

The new owner — Hughes, LLC, which operates Newport Recycling — purchased the site in September 2014. The company plans the permanent concrete cap fix so it can move its recycling operation to the site, according to an March 2 email submitted to the Kentucky Division of Waste Management acquired by The Enquirer through a federal open record requests. Company officials did not return calls for this story.

Newport doesn’t have any plans to clean up the former smelter site or other properties. Newport Code Enforcement Director Brian Steffen said the city consulted with officials from the Kentucky Environmental Protection Agency, who told them the lead on these properties doesn’t pose a serious health risk.

“We’re not a lead regulating agency,” Steffen said. “It is not a concern on our end. In talking with the state EPA, their indication is that the hazard is very minimal. There’s more hazard in lead wheel weights on cars.”

The Kentucky Transportation Cabinet took note of the lead problem on the smelter site and chose to plot the course of a $38 million extension of Kentucky Route 9, which will connect the AA Highway in Campbell County to the Ohio riverfront, to avoid the path of the smelter plant site, according to Nancy Wood, public information officer for the transportation cabinet.

But elsewhere in Newport, residents have heard little about potential problems with lead in their yards.

“I feel like most people probably don’t know about lead as an issue,” said Kyle Randall, Newport resident and former chair of Newport’s Westside Citizen’s Coalition. “If you look at the neighborhood and its demographics and all of its turbulence right now, everything that is changing, there is so much more to focus on, that it’s just overlooked.

“There are a handful of people who are aware, but it isn't featured prominently in city meetings or discussions.”

Both Remmy and Dr. Kirsten Schwarz — who performed the study on soil lead contamination as part of her research in the biological sciences program at Northern Kentucky University — hope to make the community more knowledgable.

Remmy’s concerns grew shortly after the USA Today report when she began developing an urban garden in the backyard of the Henry Hosea House on Orchard Street, about 12 blocks from the foundry site.

She hoped the garden would bring fresh produce such as carrots and spinach to the area — filling what she sees as a nutritional void in the community. But tests from the Campbell County Extension Office showed the lead levels in the nonprofit’s backyard posed a health hazard (at more than six times an EPA working group’s safe limit for gardening), forcing her to import soil and build raised beds away from the ground before she could even think about producing fresh produce.

“I was afraid we would not be able to grow the garden at all — that the food grown might not be safe to serve to our guests,” Remmy said.

And while raised beds may have solved the problem of lead for the Hosea House, a lack of awareness about lead’s risks to children may prevent most residents from conducting tests and taking precautions they need to, Schwarz said.



Monica Remmy, Chair of Newport’s Westside Citizen’s Coalition and Garden Manager for the Hosea House, working in the Hosea House’s urban garden. Remmy developed the idea for the garden to bring produce to the area, but was forced to take extra steps to ensure the vegetables wouldn’t become contaminated with lead once elevated levels were found in soil on the property. (Photo: Kevin Schultz)

**Safety standards**

Testing and tracking lead levels is important because there is no way a normal person can tell if dirt is laced with lead.

Lead can be present as a very fine dust that attaches itself to soil, and could be inconspicuously lying in the dirt in backyards for decades.

“You can’t see lead or even easily identify it by looking at an area,” Schwarz said. “The only way to know an area’s lead concentration is to test for it.”

Until this year, however, the testing on lead in Newport had been limited to isolated sites based on specific projects such as the gardening initiative and the USA Today report.

In January, Schwarz began a broader study of lead contamination in Newport to determine where high levels of lead may be hiding beyond the foundry site.

Schwarz used a sampling plan that used the same technology as the USA Today testing, the handheld x-ray fluorescent gun (which shoots rays into soil particles to measure lead concentrations), but focused more on how samples were collected in the yard and the number of samples from each yard, in order to start to develop a pattern for how lead may be deposited throughout the city, as opposed to just indicating lead’s presence.

“The sample size is small but it is intensively sampled,” she said. “We have a very good idea of the lead concentrations of the parcel. Whether it is representative of the entire neighborhood, we can’t say. But it would be highly unlikely for this to be skewed.”

Overall, Schwarz expected some lead problems — especially near houses where chips of lead-based paint could have fallen and along streets where the exhaust from cars decades ago might have left lead contamination. But she was surprised by the scope of the contamination.

Her results showed 98.5 percent of the 204 tests on seven residential properties showed lead levels over the EPA threshold for gardening, 100 parts per million. And 38.2 percent exceeded the threshold for safety in children’s play areas, 400 parts per million.

“One of the things that is really striking is the variability of soil lead. It can change a lot over a very small distance,” Schwarz said.

“In other areas where we have sampled we sometimes find very high levels of lead up next to the house or higher levels next to the road, but we tend to see lower levels in the middle of the yard. I was surprised that we didn't see that here.”

Higher levels of lead in the middle of the yard, away from structures such as painted walls and roads, could be an illustration of the former lead smelter as a source of lead — its lead emissions could have drifted out of the smoke stacks and landed throughout areas of the yard where other sources couldn't necessarily reach.

The highest levels of soil lead reached up to 3,969 parts per million, almost 10 times the EPA established safety level for children. However, Schwarz said hotspots — where lead levels can be extremely high due to the culmination of multiple sources such as leaded paint, leaded gasoline, etc. — like this do occur.

Natural levels of lead in soil range between 10 parts per million and 30 parts per million, according to studies from the University of California Davis, a leading institution in soil lead research.

Scientists and legal experts have debated over the standards that should be used to measure the safety levels of lead.

Some states have reduced their soil lead standards below the 400 parts per million standard set by the EPA, citing the risk lead levels that high may have on children. [Minnesota, for example, reduced its residential bare soil lead standard to 100 parts per million.](http://www.extension.umn.edu/garden/yard-garden/soils/lead-in-home-garden/)

The state of Kentucky, however, applies the EPA standard for children’s play areas — 400 parts per million — as its common lead safety standard. Levels above 1,200 parts per million are the regular standard for areas not associated with children’s play areas or urban gardening.

**How serious of a health threat?**

The presence of lead in children’s blood — even at very low levels— has been recorded to cause everything from developmental delays to decreased IQ, hearing, speech and language delays to unconsciousness and even death.

Nationally renowned soil lead scientist Dr. Howard Mielke said the invisible nature of lead contamination causes many to ignore the dangers. But the risks are high — and much more common than people think, said Mielke, a professor of pharmacology at Tulane University School of Medicine in New Orleans, Louisiana.

Mielke has studied elevated levels of soil lead across the country, in places such as New Orleans and Baltimore, and formerly served on an EPA advisory board for lead dust. He said scientists have documented high levels of lead in cities everywhere from Baltimore, Maryland to Sydney, Australia.

He said tracking elevated levels of lead is important because of the “long-term, crippling” effects it can have on not just individual youths, but society.

He cited the case of Freddie Gray from Baltimore, Md., who died April 19 after being held in police custody, prompting protests across the nation.

[Court records reportedly show](http://www.washingtonpost.com/local/freddie-grays-life-a-study-in-the-sad-effects-of-lead-paint-on-poor-blacks/2015/04/29/0be898e6-eea8-11e4-8abc-d6aa3bad79dd_story.html) that a young Gray had lead levels in his bloodstream up to 37 micrograms which is more than seven times the level at which the Center for Disease Control urges additional testing.

“Some of the things we are witnessing — the societal difficulties — show up everyday,” Mielke said. “ We are talking about the whole society being severely handicapped as a result of exposure. You don’t have to expose everybody to lead to end up with a very serious problem.”

Children are most at risk from soil-based lead poisoning when they play in the dirt that’s contaminated: ingesting lead through contact between contaminated soil and their mouth, or breathing in lead particles through their nose.

Schwarz said regular testing is important for children because it is the only real way to know if a child has lead poisoning.

“Children that have elevated blood lead levels don’t often exhibit any symptoms, and if they do they are likely to be subtle,” she said. “The only way to tell if a child has an elevated blood lead is to test them.”

**Lead poisoning diagnosis fall through the cracks**

Health officials recognize that lead-contaminated soil poses a risk for children in communities such as Newport, but they question how widespread the risk is.

In the last 14 years, children on just 33 properties tested high for blood lead levels, according to Northern Kentucky Health Department records. In many cases, health officials concluded lead-based paint caused the problem and did not even test the soil. They deemed 19 sites in need of soil testing and 16 of those had soil lead concentrations above the 400 parts per million safety level.

“Generally speaking, it’s more lead paint chips or dust exposures inside a structure such as a window sill or door threshold than in the soil,” said Steve Divine, Northern Kentucky Health Department director of environmental health and safety.

Kim Dinsey-Read, former NKU nursing professor and lead case manager from 2005-2006 for the Northern Kentucky Health Department, however, sees the low number as illustration of the lack of awareness with the issue.

Dinsey-Read said that because no one talks about the issue of lead, many children in Newport aren’t tested and most parents don’t even realize their children should be tested.

Only 6.72 percent of children in the Newport area under the age of 6 were actually tested for high blood lead levels in 2007, according data from the Kentucky Cabinet for Health and Family Services.

The Northern Kentucky Health Department is doing its best to deal with lead given the resources it has, Divine said.

“It is a problem we are aware of,” Divine said. “Our biggest thing in the region comes down to who is responsible for the cleanup and how are you going to pay for it?”

**Dreams of an unleaded future**

The EPA made a first move toward the cleanup of lead and other contaminants in Newport and neighboring Covington when it awarded a $600,000 grant to the Licking River Greenway Brownfield Coalition in spring 2014.

The coalition is using the grant money to identify and rank brownfield sites — which developers avoid because of suspected environmental problems.

“We call it a brownfield whether we know there is environmental damage or not,” said Sara Jo Shipley, community development specialist for the Northern Kentucky Area Development District, one of the partners in the EPA grant. “That’s why this process is so important. If we can do the assessment and it turns out there is no contamination, we can get that property back into productive use sooner.”

And if there is contamination, then property owners can move to the next step in the process: securing funds for remediation.

Shipley said officials are in the process of ranking potentially contaminated sites throughout the area according to criteria such as location, number of people who use the land and more.

The top sites will be investigated for actual contamination in the next phase of the process.

After that, there are several avenues property owners can take if their property is found to have an actual contamination, such as requesting a loan through the Northern Kentucky Area Development district or the EPA for remediation.

People living near areas with high levels of lead can also do things such as import gravel, mulch or fresh soil into their yards to cover up contaminated soil.

They can also make sure to wash hands frequently, take shoes off before entering the house, and just overall plan yard use strategically. Schwarz said this means not putting your child’s playhouse up next to the house, for example, where lead levels may be higher.

However, Schwarz said it’s important to recognize that the responsibility can’t just be placed on people living in the area now.

“While there are precautions that folks can take to reduce their risk of exposure, they place the onus on individuals – elevated soil lead is a larger societal problem,” she said in an email.

Kyle Randall, former chair of Newport’s Westside Citizen’s Coalition agrees and believes the city needs to do much more.

“They have not in any way acknowledged the presence of the USA TODAY articles or studies,” he said. “It’s a threat they are largely just wishing would go back where it came from.”

Cleanups typically include rounding up all of the contaminated material and moving it to a quarantine location, capping over the site with concrete or other materials or fencing off the property in a temporary arrangement until further action is decided upon.

Hubbard said the state usually has about $400,000 to $500,000 every year for environmental cleanup and just one project could cost millions.

The EPA and state try to get businesses that cause pollution to help pay for cleaning up their mess, but identifying the responsible parties can be difficult.

“That’s sort of the problem with lead contamination. You may not be able to definitively determine who is responsible for it,” Hubbard said. “It makes it really tough. That’s why any data that’s collected for lead would have to be looked at very considerably.”

The Northern Kentucky Area Development District also offers grants and loans to owners of contaminated properties. And Mielke said there are other possibilities for cleanup on a larger scale. In New Orleans the city brought tons of fresh, clean soil in to create a 11-foot layer over a 70-acre lot found to have high levels of lead.

“Obviously it is not impossible,” Mielke said.

A cleanup plan for Newport might take a different approach, Schwarz said, since appropriate response vary from site to site.

Regardless, she hopes her research will not only inform the public, but lead to action.

“We need to start thinking about what some potential solutions might look like,” Schwarz said. “So that’s where I hope folks that are involved in Newport can pick that up and continue where we don’t necessarily have the knowledge, power, or authority to do so.”

*Scott Wartman contributed*

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